Form 3160-3 (June 2015) UNITED STATES DEPARTMENT OF THE INTE	RIOR	FORM APPROVED OMB No. 1004-0137 Expires: January 31, 2018 5. Lease Serial No.			
BUREAU OF LAND MANAGE		NMNM112935			
APPLICATION FOR PERMIT TO DRILI	L OR REENTER	6. If Indian, Allotee or Tribe Name			
		7 If Unit or CA Agr	eement, Name and No.		
1a. Type of work:    ✓   DRILL	ΈR	7. If Ohlt of CAAgi	eement, Name and No.		
1b. Type of Well:   ✓     ✓   Oil Well     Gas Well   Other	8. Lease Name and				
1c. Type of Completion:   Hydraulic Fracturing   Image: Single Z	Zone Multiple Zone	ALMOST EDDY 30	о FED СОМ 330825]		
2. Name of Operator EOG RESOURCES INCORPORATED [7377]		9. API Well No. 3	0-025-49009		
	Phone No. (include area code) 8) 651-7000	10. Field and Pool, o BRADLEY; BONE	or Exploratory [97903] SPRING		
<ol> <li>Location of Well (Report location clearly and in accordance with an At surface TR K / 1948 FSL / 2390 FWL / LAT 32.099423 / I At proposed prod. zone TR N / 100 FSL / 2054 FWL / LAT 32.</li> </ol>	LONG -103.7153371	11. Sec., T. R. M. or SEC 30/T25S/R32	Blk. and Survey or Area E/NMP		
14. Distance in miles and direction from nearest town or post office*		12. County or Parish LEA	n 13. State NM		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)       16. I	No of acres in lease 17. Spacin 484.0	ng Unit dedicated to the	his well		
18. Distance from proposed location* 19. 1 to nearest well, drilling, completed, and the second	Proposed Depth 20. BLM/ 30 feet / 18038 feet FED:	BIA Bond No. in file			
	pproximate date work will start* 23. Estimated duration 25 days				
24	. Attachments				
<ul> <li>The following, completed in accordance with the requirements of Onst (as applicable)</li> <li>1. Well plat certified by a registered surveyor.</li> <li>2. A Drilling Plan.</li> <li>3. A Surface Use Plan (if the location is on National Forest System Lan SUPO must be filed with the appropriate Forest Service Office).</li> </ul>	4. Bond to cover the operation Item 20 above).	s unless covered by ar	n existing bond on file (see		
25. Signature (Electronic Submission) Title	Name (Printed/Typed) STAR HARRELL / Ph: (713) 651-7				
Regulatory Specialist					
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5959		Date 05/06/2021		
Title Assistant Field Manager Lands & Minerals	Office Carlsbad Field Office				
Application approval does not warrant or certify that the applicant hold applicant to conduct operations thereon. Conditions of approval, if any, are attached.	Is legal or equitable title to those rights	in the subject lease w	hich would entitle the		
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it of the United States any false, fictitious or fraudulent statements or rep			iny department or agency		

# GCP Rec 05/07/2021





SL

District I

District II

District III

District IV

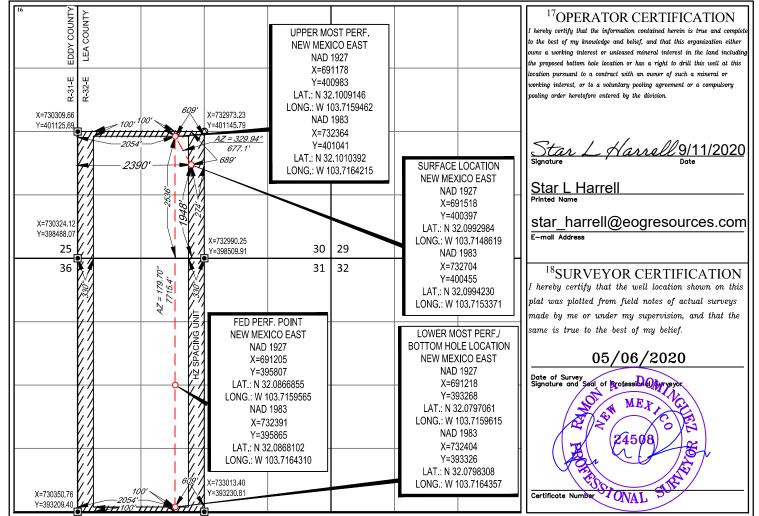
Page 2 of 30

**FORM C-102** State of New Mexico 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 **Revised August 1, 2011** Energy, Minerals & Natural Resources 811 S. First St., Artesia, NM 88210 Submit one copy to appropriate Department Phone: (575) 748-1283 Fax: (575) 748-9720 **District Office** OIL CONSERVATION DIVISION 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 1220 South St. Francis Dr. AMENDED REPORT 1220 S. St. Francis Dr., Santa Fe, NM 87505 Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

# WELL LOCATION AND ACREAGE DEDICATION PLAT

	$^{1}$ API Number 0-025-							PRING	
<sup>4</sup> Property C <b>330825</b>	Code		<sup>5</sup> Property Name ALMOST EDDY 30 FED COM 504H						
<sup>7</sup> ogrid M 7377		<sup>8</sup> Operator Name <sup>9</sup> Elevation EOG RESOURCES, INC. 3351'							
					<sup>10</sup> Surface L	ocation			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	30	25-S	32-E	-	1948'	SOUTH	2390'	WEST	LEA
			11	Bottom Ho	le Location If I	Different From Sur	rface		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$								
<sup>12</sup> Dedicated Acres 484.21	<sup>13</sup> Joint or ]	infill <sup>14</sup> Co	nsolidation Co	de <sup>15</sup> Orde	er No.	•			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



S\SURVEY\EOG\_MIDLAND\ALMOST\_EDDY\_30\_FED\_COM\FINAL\_PRODUCTS\LO\_ALMOST\_EDDY\_30\_FED\_COM\_504H.DWG 7/21/2020 11:50:10 AM bgregory Released to Imaging: 6/11/2021 2:33:20 PM

State of New Mexico Submit Original 1625 N. French Dr., Hobbs, NM 88240 Energy, Minerals and Natural Resources Department to Appropriate 811 S. First St., Artesia, NM 88210 District Office **Oil Conservation Division** 1000 Rio Brazos Road, Aztec, NM 87410 1220 South St. Francis Dr. 1220 S. St. Francis Dr., Santa Fe, NM 87505 Santa Fe, NM 87505 **GAS CAPTURE PLAN** 

Date: 5/7/2021

 $\boxtimes$  Original

District I

District II

District III

District IV

Lea County, NM

Operator & OGRID No.: EOG Resources, Inc. 7377

□ Amended - Reason for Amendment:

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC). Well(s)/Production Facility – Name of facility

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Almost Eddy 30 Fed Com 501H	30-025- ****	L-30-25S-32E	1936' FSL & 387' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 502H	30-025- ****	L-30-25S-32E	1903' FSL & 387' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 503H	30-025- ****	L-30-25S-32E	1870' FSL & 387' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 504H <b>30-025-49009</b>	30-025- ****	K-30-25S-32E	1948' FSL & 2390' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 505H	30-025- ****	K-30-25S-32E	1974' FSL & 2410' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 506H	30-025- ****	K-30-25S-32E	2000' FSL & 2430' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 507H	30-025- ****	I-30-25S-32E	2182' FSL & 758' FEL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 508H	30-025- ****	I-30-25S-32E	2182' FSL & 725' FEL	±3500	None Planned	APD Submission

The well(s) that will be located at the production facility are shown in the table below.

# **Gathering System and Pipeline Notification**

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enlink, MarkWest, Enterprise, Energy Transfer Company & Lucid and will be connected to EOG Resources low/high pressure gathering system located in Lea County, New Mexico. EOG Resources provides (periodically) to Enlink, MarkWest, Enterprise, Energy Transfer Company & Lucid a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, EOG Resources and Enlink, MarkWest, Enterprise, Energy Transfer Company & Lucid have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enlink, MarkWest, Enterprise, Energy Transfer Company & Lucid Processing Plant located in Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

# **Flowback Strategy**

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enlink, MarkWest, Enterprise, Energy Transfer Company & Lucid system at that time. Based on current information, it is EOG Resources' belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

# **Alternatives to Reduce Flaring**

•

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation On lease
  - $\circ$  Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal On lease
  - o Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

# 1. GEOLOGIC NAME OF SURFACE FORMATION: Permian

# 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

975'
1,045'
1,300'
4,180'
4,385'
4,410'
5,360'
6,865'
8,425'
8,525'
8,855'
9,355'
9,665'
10,050'
10,430'

# 3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0-400'	Fresh Water
Cherry Canyon	5,360'	Oil
Brushy Canyon	6,865'	Oil
Leonard A Shale	8,525'	Oil
Leonard B Shale	8,855'	Oil
1 <sup>st</sup> Bone Spring Sand	9,355'	Oil
2 <sup>nd</sup> Bone Spring Shale	9,665'	Oil
2 <sup>nd</sup> Bone Spring Sand	10,050'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 13.375" casing at 1,070' and circulating cement back to surface.

Hole		Csg				DF <sub>min</sub>	DF <sub>min</sub>	DF <sub>min</sub>
Size	Interval	OD	Weight	Grade	Conn	Collapse	Burst	Tension
17.5"	0'-1,070'	13.375"	54.5#	J-55	STC	1.125	1.25	1.60
12.25"	0'-4,000'	9.625"	40#	J-55	LTC	1.125	1.25	1.60
12.25"	4,000' - 4,280'	9.625"	40#	HCK-55	LTC	1.125	1.25	1.60
8.75"	0'-10,750'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60
8.5"	10,750'-	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60
	18,038'							

# 4. CASING PROGRAM - NEW

Variance is requested to waive the centralizer requirements for the 9-5/8" casing in the 12-1/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 12-1/4" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 5-1/2" casing in the 8-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 8-3/4" hole interval to maximize cement bond and zonal isolation.

	No.	Wt.	Yld	
Depth	Sacks	ppg	Ft <sup>3</sup> /sk	Slurry Description
1,070'	470	13.5	1.73	Lead: Class C + 4.0% Bentonite + 0.5% $CaCl_2$ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	160	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 870')
4,280'	630	12.7	2.22	Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface)
	280	14.8	1.32	Tail: Class C + 10% NaCl + 3% MagOx (TOC @ 3,430')
18,038'	630	11.0	3.21	Lead: Class C + 3% CaCl2 + 3% Microbond (TOC @ 3,780')
	1,950	14.4	1.2	Tail: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 10,000')

# **Cementing Program:**

EOG RESOURCES, INC.
ALMOST EDDY 30 FED COM #504H

Additive	Purpose
Bentonite Gel	Lightweight/Lost circulation prevention
Calcium Chloride	Accelerator
Cello-flake	Lost circulation prevention
Sodium Metasilicate	Accelerator
MagOx	Expansive agent
Sodium Chloride	Accelerator
FL-62	Fluid loss control
Halad-344	Fluid loss control
Halad-9	Fluid loss control
HR-601	Retarder
Microbond	Expansive Agent

Cement integrity tests will be performed immediately following plug bump.

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

# 5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5,000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

EOG will utilize wing unions on BOPE connections that can be isolated from wellbore pressure through means of a choke. All wing unions will be rated to a pressure that meets or exceeds the pressure rating of the BOPE system.

Variance is requested to use a 5,000 psi annular BOP with the 10,000 psi BOP stack.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 10,000/ 250 psig and the annular preventer to 5,000/ 250 psig.

Pipe rams and blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

# 6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal.

The applicable depths and properties of the drilling fluid systems are as follows.

Depth	Туре	Weight (ppg)	Viscosity	Water Loss
0-1,070'	Fresh - Gel	8.6-8.8	28-34	N/c
1,070' - 4,280'	Brine	8.6-8.8	28-34	N/c
4,280' - 18,038'	Oil Base	8.8-9.5	58-68	N/c - 6

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

# 7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H<sub>2</sub>S monitoring and detection equipment will be utilized from surface casing point to TD.

# 8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not planned for this well.

GR–CCL Will be run in cased hole during completions phase of operations.

# 9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

The estimated bottom-hole temperature (BHT) at TD is 174 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 5,152 psig and a maximum anticipated surface pressure of 2,858 psig (based on 9.5 ppg MW). No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from 6,865' to TD.

# **10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:**

The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. After WOC 8 hours or 500 psi compressive strength (whichever is greater), the Surface Rig will move off so the wellhead can be installed. A welder will cut the casing to the proper height and weld on the wellhead (both "A" and "B" sections). The weld will be tested to 1000 psi. All valves will be closed and a wellhead cap will be installed (diagram attached). If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

# **11. WELLHEAD**:

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13-3/8" BOP/BOPE system with a minimum working pressure of 10,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10,000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 10,000 psi.

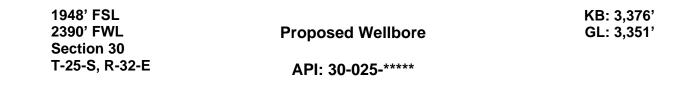
The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Cameron Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

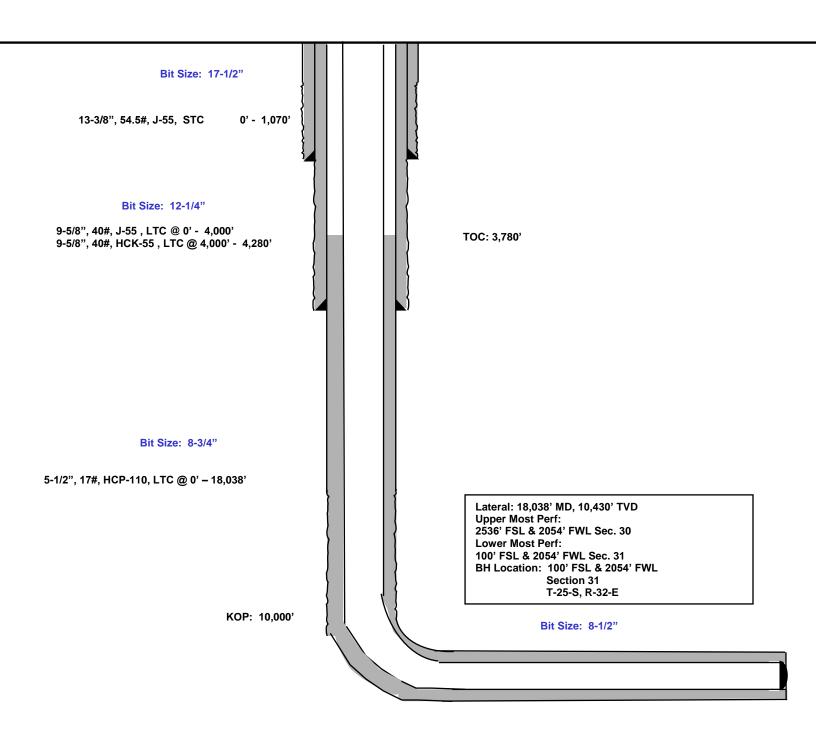
The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. EOG Resources reserves the option to conduct BOPE testing during wait on cement periods provided a test plug is utilized.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.







# **EOG Resources - Midland**

Lea County, NM (NAD 83 NME) Almost Eddy 30 Fed Com #504H

OH

Plan: Plan #0.1 RT

# **Standard Planning Report**

17 July, 2020

# Received by OCD: 5/7/2021 12:06:20 PM

# **EOG Resources**

eogresources				Planning Report						
Database: Company: Project: Site: Well:	EDM EOG Resourd Lea County, I Almost Eddy #504H	NM (NAD 83 N	ME)	Local Co-ordina TVD Reference: MD Reference: North Reference Survey Calculat	e:		Well #504H kb = 25' @ 3376 kb = 25' @ 3376 Grid Minimum Curvat	6.007ft		
Wellbore:	OH Plan #0.1 RT									
Design:	Lea County, N									
Project Map System: Geo Datum: Map Zone:	US State Plane North American New Mexico Ea	1983 Datum 1983	·	System Datum:			Mean Sea Level			
Site	Almost Eddy 3	0 Fed Com								
Site Position: From: Position Uncertainty	Map ::	0.000 ft	Northing: Easting: Slot Radius:	400,427 730,702 13		Latitude: Longitude: Grid Conve	ergence:			32.0993 -103.7218 0.32
Well	#504H									
Well Position	+N/-S	28.000 ft	Northing:	2	400,455.	80 ft L	atitude:			32.0994
Desition Uncertainty	+E/-W	2,003.004 ft	Easting: Wollboad Eld		732,705.		ongitude:			-103.7153
		2,003.004 ft 0.000 ft	Easting: Wellhead Ele		732,705.		ongitude: Fround Level:			
Position Uncertainty Wellbore Magnetics		0.000 ft	_		732,705.	G	-	Fi	ield Strength (nT)	
Wellbore	OH Model Nar	0.000 ft	Wellhead Ele	Declination (°)	732,705. 5.710	G	o Angle	Fi	-	3,351.00
Wellbore	OH Model Nar	0.000 ft	Wellhead Ele Sample Date	Declination (°)		G	o Angle (°)	Fi	(nT)	3,351.00
Wellbore Magnetics	OH Model Nar	0.000 ft	Wellhead Ele Sample Date	Declination (°)	5.710	G	o Angle (°) 59.795	<b>Fi</b> 0.000	(nT)	3,351.00
Wellbore Magnetics Design Audit Notes: Version:	OH Model Nar	0.000 ft me RF2020 Depth F	Wellhead Ele Sample Date 7/16/2020	Declination (°)	5.710 Tie +E	G Dir	round Level: ک Angle (°) 59.795		(nT)	3,351.00
Wellbore Magnetics Design Audit Notes:	OH Model Nar IGF Plan #0.1 RT	0.000 ft me RF2020 Depth F	Wellhead Ele Sample Date 7/16/2020 Phase: rom (TVD) (ft) 000	PLAN +N/-S (ft)	5.710 Tie +E	G Dip On Depth: /-W ft)	angle (°) 59.795	0.000 ection (°)	(nT)	3,351.00

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# Received by OCD: 5/7/2021 12:06:20 PM



# **EOG Resources**

Planning Report

Database:	EDM	Local Co-ordinate Reference	Well #504H
Company:	EOG Resources - Midland	TVD Reference:	kb = 25' @ 3376.007ft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 25' @ 3376.007ft
Site:	Almost Eddy 30 Fed Com	North Reference:	Grid
Well:	#504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #0.1 RT		

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.000	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000	
1,170.000	0.00	0.000	1,170.000	0.000	0.000	0.00	0.00	0.00	0.000	
1,556.894	7.74	331.871	1,555.719	23.005	-12.298	2.00	2.00	0.00	331.871	
6,525.700	7.74	331.871	6,479.280	612.997	-327.703	0.00	0.00	0.00	0.000	
6,912.594	0.00	0.000	6,865.000	636.001	-340.001	2.00	-2.00	0.00	180.000	
10,000.114	0.00	0.000	9,952.519	636.001	-340.001	0.00	0.00	0.00	0.000	KOP(Almost Eddy 3
10,220.565	26.46	180.000	10,165.220	586.001	-340.001	12.00	12.00	81.65	180.000	FTP(Almost Eddy 30
10,750.089	90.00	179.693	10,429.964	158.548	-338.418	12.00	12.00	-0.06	-0.343	
15,498.714	90.00	179.693	10,430.020	-4,590.009	-313.001	0.00	0.00	0.00	0.000	Fed Perf 1(Almost E
18,037.796	90.00	179.693	10,430.051	-7,129.054	-299.410	0.00	0.00	0.00	0.000	PBHL(Almost Eddy



Database:	EDM	Local Co-ordinate Reference	Well #504H
Company:	EOG Resources - Midland	TVD Reference:	kb = 25' @ 3376.007ft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 25' @ 3376.007ft
Site:	Almost Eddy 30 Fed Com	North Reference:	Grid
Well:	#504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #0.1 RT		

Planned Survey

eog resources

	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
				• •				. ,	. ,	
	0.000 100.000	0.00 0.00	0.000 0.000	0.000 100.000	0.000 0.000	0.000 0.000	0.000 0.000	0.00	0.00	0.00
	200.000							0.00	0.00	0.00
	200.000	0.00	0.000	200.000	0.000	0.000	0.000	0.00	0.00	0.00
		0.00	0.000	300.000	0.000	0.000	0.000	0.00	0.00	0.00
	400.000	0.00	0.000	400.000	0.000	0.000	0.000	0.00	0.00	0.00
	500.000	0.00	0.000	500.000	0.000	0.000	0.000	0.00	0.00	0.00
	600.000	0.00	0.000	600.000	0.000	0.000	0.000	0.00	0.00	0.00
	700.000	0.00	0.000	700.000	0.000	0.000	0.000	0.00	0.00	0.00
	800.000	0.00	0.000	800.000	0.000	0.000	0.000	0.00	0.00	0.00
	900.000	0.00	0.000	900.000	0.000	0.000	0.000	0.00	0.00	0.00
	1,000.000	0.00	0.000	1,000.000	0.000	0.000	0.000	0.00	0.00	0.00
	1,100.000	0.00	0.000	1,100.000	0.000	0.000	0.000	0.00	0.00	0.00
	1,170.000	0.00	0.000	1,170.000	0.000	0.000	0.000	0.00	0.00	0.00
	1,200.000	0.60	331.871	1,199.999	0.139	-0.074	-0.135	2.00	2.00	0.00
	1,300.000	2.60	331.871	1,299.955	2.601	-1.390	-2.540	2.00	2.00	0.00
	1,400.000	4.60	331.871	1,399.753	8.138	-4.350	-7.948	2.00	2.00	0.00
	1,500.000	6.60	331.871	1,499.271	16.743	-8.951	-16.353	2.00	2.00	0.00
	1,556.894	7.74	331.871	1,555.719	23.005	-12.298	-22.468	2.00	2.00	0.00
	1,600.000	7.74	331.871	1,598.432	28.123	-15.034	-27.467	0.00	0.00	0.00
	1,700.000	7.74	331.871	1,697.522	39.997	-21.382	-39.065	0.00	0.00	0.00
	1,800.000	7.74	331.871	1,796.611	51.871	-27.730	-50.662	0.00	0.00	0.00
	1,900.000	7.74	331.871	1,895.701	63.745	-34.077	-62.259	0.00	0.00	0.00
	2,000.000	7.74	331.871	1,994.790	75.619	-40.425	-73.856	0.00	0.00	0.00
	2,100.000	7.74	331.871	2,093.880	87.493	-46.773	-85.453	0.00	0.00	0.00
	2,200.000	7.74	331.871	2,192.969	99.367	-53.120	-97.050	0.00	0.00	0.00
	2,300.000	7.74	331.871	2,292.058	111.240	-59.468	-108.647	0.00	0.00	0.00
	2,400.000	7.74	331.871	2,391.148	123.114	-65.816	-120.244	0.00	0.00	0.00
	2,500.000	7.74	331.871	2,490.237	134.988	-72.164	-131.841	0.00	0.00	0.00
	2,600.000	7.74	331.871	2,589.327	146.862	-78.511	-143.438	0.00	0.00	0.00
	2,700.000	7.74	331.871	2,688.416	158.736	-84.859	-155.036	0.00	0.00	0.00
	2,800.000	7.74	331.871	2,787.506	170.610	-91.207	-166.633	0.00	0.00	0.00
	2,900.000	7.74	331.871	2,886.595	182.484	-97.554	-178.230	0.00	0.00	0.00
	3,000.000	7.74	331.871	2,985.684	194.358	-103.902	-189.827	0.00	0.00	0.00
	3,100.000	7.74	331.871	3,084.774	206.232	-110.250	-201.424	0.00	0.00	0.00
	3,200.000	7.74	331.871	3,183.863	218.106	-116.597	-213.021	0.00	0.00	0.00
	3,300.000	7.74	331.871	3,282.953	229.980	-122.945	-224.618	0.00	0.00	0.00
	3,400.000	7.74	331.871	3,382.042	241.854	-129.293	-236.215	0.00	0.00	0.00
	3,500.000	7.74	331.871	3,481.132	253.727	-135.640	-247.812	0.00	0.00	0.00
	3,600.000	7.74	331.871	3,580.221	265.601	-141.988	-259.409	0.00	0.00	0.00
	3,700.000	7.74	331.871	3,679.311	277.475	-148.336	-271.007	0.00	0.00	0.00
	3,800.000	7.74	331.871	3,778.400	289.349	-154.684	-282.604	0.00	0.00	0.00
	3,900.000	7.74	331.871	3,877.489	301.223	-161.031	-294.201	0.00	0.00	0.00
	4,000.000	7.74	331.871	3,976.579	313.097	-167.379	-305.798	0.00	0.00	0.00
	4,100.000	7.74	331.871	4,075.668	324.971	-173.727	-317.395	0.00	0.00	0.00
	4,200.000	7.74	331.871	4,174.758	336.845	-180.074	-328.992	0.00	0.00	0.00
	4,300.000	7.74	331.871	4,273.847	348.719	-186.422	-340.589	0.00	0.00	0.00
	4,400.000	7.74	331.871	4,372.937	360.593	-192.770	-352.186	0.00	0.00	0.00
	4,500.000	7.74	331.871	4,472.026	372.467	-199.117	-363.783	0.00	0.00	0.00
	4,600.000	7.74	331.871	4,571.115	384.341	-205.465	-375.380	0.00	0.00	0.00
	4,700.000	7.74	331.871	4,670.205	396.214	-211.813	-386.977	0.00	0.00	0.00
	4,800.000	7.74	331.871	4,769.294	408.088	-218.160	-398.575	0.00	0.00	0.00
	4,900.000	7.74	331.871	4,868.384	419.962	-224.508	-410.172	0.00	0.00	0.00
	5,000.000	7.74	331.871	4,967.473	431.836	-230.856	-421.769	0.00	0.00	0.00
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COMPASS 5000.15 Build 91



Database:	EDM	Local Co-ordinate Reference	Well #504H
Company:	EOG Resources - Midland	TVD Reference:	kb = 25' @ 3376.007ft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 25' @ 3376.007ft
Site:	Almost Eddy 30 Fed Com	North Reference:	Grid
Well:	#504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #0.1 RT		

Planned Survey

eog resources

	Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
	(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
	5,100.000	7.74	331.871	5,066.563	443.710	-237.204	-433.366	0.00	0.00	0.00
	5,200.000	7.74	331.871	5,165.652	455.584	-243.551	-444.963	0.00	0.00	0.00
	5,300.000	7.74	331.871	5,264.741	467.458	-249.899	-456.560	0.00	0.00	0.00
	5,400.000	7.74	331.871	5,363.831	479.332	-256.247	-468.157	0.00	0.00	0.00
	5,500.000	7.74	331.871	5,462.920	491.206	-262.594	-479.754	0.00	0.00	0.00
	5,600.000	7.74	331.871	5,562.010	503.080	-268.942	-491.351	0.00	0.00	0.00
1	5,700.000	7.74	331.871	5,661.099	514.954	-275.290	-502.948	0.00	0.00	0.00
					526.828			0.00		0.00
	5,800.000 5,900.000	7.74 7.74	331.871 331.871	5,760.189 5,859.278	526.626 538.701	-281.637 -287.985	-514.546 -526.143	0.00	0.00 0.00	0.00
	6,000.000	7.74	331.871	5,958.368	550.575	-294.333	-537.740	0.00	0.00	0.00
	6,100.000	7.74	331.871	6,057.457	562.449	-294.333	-549.337	0.00	0.00	0.00
	6,200.000	7.74	331.871	6,156.546	574.323	-307.028	-560.934	0.00	0.00	0.00
	6,300.000	7.74	331.871	6,255.636	586.197	-313.376	-572.531	0.00	0.00	0.00
	6,400.000	7.74	331.871	6,354.725	598.071	-319.724	-584.128	0.00	0.00	0.00
	6,500.000	7.74	331.871	6,453.815	609.945	-326.071	-595.725	0.00	0.00	0.00
	6,525.700	7.74	331.871	6,479.280	612.997	-327.703	-598.706	0.00	0.00	0.00
	6,600.000	6.25	331.871	6,553.026	620.976	-331.968	-606.499	2.00	-2.00	0.00
	6,700.000	4.25	331.871	6,652.601	629.048	-336.283	-614.383	2.00	-2.00	0.00
	6,800.000	2.25	331.871	6,752.435	634.050	-338.958	-619.269	2.00	-2.00	0.00
	6,900.000	0.25	331.871	6,852.406	635.977	-339.988	-621.150	2.00	-2.00	0.00
	6,912.594	0.00	0.000	6,865.000	636.001	-340.001	-621.174	2.00	-2.00	0.00
	7,000.000	0.00	0.000	6,952.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	7,100.000	0.00	0.000	7,052.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	7,200.000	0.00	0.000	7,152.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	7,300.000	0.00	0.000	7,252.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	7,400.000	0.00	0.000	7,352.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	7,500.000	0.00	0.000	7,452.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	7,600.000	0.00	0.000	7,552.406	636.001	-340.001		0.00	0.00	0.00
	7,600.000	0.00	0.000	7,552.406 7,652.406	636.001 636.001	-340.001 -340.001	-621.174 -621.174	0.00	0.00	0.00
	7,800.000	0.00	0.000	7,052.406	636.001	-340.001	-621.174 -621.174	0.00	0.00	0.00
	7,900.000	0.00	0.000	7,852.400	636.001	-340.001	-621.174	0.00	0.00	0.00
	8,000.000	0.00	0.000	7,952.400	636.001	-340.001	-621.174	0.00	0.00	0.00
	8,100.000	0.00	0.000	8,052.406	636.001	-340.001	-621.174	0.00	0.00	0.00
1	8,200.000	0.00	0.000	8,152.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	8,300.000	0.00	0.000	8,252.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	8,400.000 8,500.000	0.00	0.000	8,352.406 8,452.406	636.001	-340.001	-621.174	0.00	0.00 0.00	0.00 0.00
	0,000.000	0.00	0.000	0,402.400	636.001	-340.001	-621.174	0.00	0.00	
1	8,600.000	0.00	0.000	8,552.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	8,700.000	0.00	0.000	8,652.406	636.001	-340.001	-621.174	0.00	0.00	0.00
	8,800.000	0.00	0.000	8,752.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	8,900.000	0.00	0.000	8,852.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,000.000	0.00	0.000	8,952.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,100.000	0.00	0.000	9,052.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,200.000	0.00	0.000	9,152.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,300.000	0.00	0.000	9,252.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,400.000	0.00	0.000	9,352.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,500.000	0.00	0.000	9,452.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,600.000	0.00	0.000	9,552.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,700.000	0.00	0.000	9,652.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,800.000	0.00	0.000	9,752.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	9,900.000	0.00	0.000	9,852.405	636.001	-340.001	-621.174	0.00	0.00	0.00
	10,000.114	0.00	0.000	9,952.519	636.001	-340.001	-621.174	0.00	0.00	0.00
1	10,025.000	2.99	180.000	9,977.394	635.353	-340.001	-620.526	12.00	12.00	0.00

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COMPASS 5000.15 Build 91

.



Database:	EDM	Local Co-ordinate Reference	Well #504H
Company:	EOG Resources - Midland	TVD Reference:	kb = 25' @ 3376.007ft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 25' @ 3376.007ft
Site:	Almost Eddy 30 Fed Com	North Reference:	Grid
Well:	#504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #0.1 RT		

Planned Survey

eog resources

De	sured pth ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
	-			.,		. ,		. ,		• •
	50.000	5.99	180.000	10,002.315	633.397	-340.001	-618.572	12.00	12.00	0.00
	75.000	8.99	180.000	10,027.099	630.140	-340.001	-615.318	12.00	12.00	0.00
	00.000	11.99	180.000	10,051.678	625.590	-340.001	-610.772	12.00	12.00	0.00
10,1	25.000	14.99	180.000	10,075.986	619.760	-340.001	-604.947	12.00	12.00	0.00
10,1	50.000	17.99	180.000	10,099.955	612.665	-340.001	-597.859	12.00	12.00	0.00
10,1	75.000	20.99	180.000	10,123.520	604.326	-340.001	-589.527	12.00	12.00	0.00
10,2	00.000	23.99	180.000	10,146.616	594.764	-340.001	-579.974	12.00	12.00	0.00
10,2	20.565	26.46	180.000	10,165.220	586.001	-340.001	-571.218	12.00	12.00	0.00
10,2	25.000	26.99	179.993	10,169.181	584.007	-340.001	-569.226	12.00	12.00	-0.16
10.2	50.000	29.99	179.958	10,191.151	572.084	-339.995	-557.313	12.00	12.00	-0.14
	75.000	32.99	179.928	10,212.467	559.027	-339.982	-544.268	12.00	12.00	-0.12
	00.000	35.99	179.903	10,233.070	544.872	-339.961	-530.127	12.00	12.00	-0.10
10,3	25.000	38.99	179.882	10,252.905	529.659	-339.933	-514.928	12.00	12.00	-0.09
10,3	50.000	41.99	179.863	10,271.916	513.428	-339.896	-498.713	12.00	12.00	-0.08
10.3	75.000	44.99	179.846	10,290.052	496.225	-339.853	-481.527	12.00	12.00	-0.07
,	00.000	47.99	179.831	10,307.262	478.096	-339.801	-463.416	12.00	12.00	-0.06
	25.000	50.99	179.817	10,323.500	459.091	-339.743	-444.431	12.00	12.00	-0.06
	50.000	53.99	179.804	10,338.721	439.263	-339.677	-424.622	12.00	12.00	-0.05
	75.000	56.99	179.792	10,352.884	418.665	-339.605	-404.046	12.00	12.00	-0.05
10.5	00.000	59.99	179.781	10,365.949	397.354	-339.526	-382.757	12.00	12.00	-0.04
	25.000	62.99	179.771	10,377.881	375.388	-339.440	-360.814	12.00	12.00	-0.04
	50.000	65.99	179.761	10,388.647	352.829	-339.348	-338.278	12.00	12.00	-0.04
	75.000	68.99	179.752	10,398.217	329.736	-339.250	-315.210	12.00	12.00	-0.04
	00.000	71.99	179.743	10,406.566	306.175	-339.146	-291.674	12.00	12.00	-0.04
	25.000 50.000	74.99 77.99	179.734 179.726	10,413.670 10,419.510	282.209 257.904	-339.036 -338.922	-267.734 -243.455	12.00 12.00	12.00 12.00	-0.03 -0.03
	75.000	80.99	179.718	10,424.071	233.326	-338.802	-218.904	12.00	12.00	-0.03
	00.000	83.99	179.709	10,427.338	208.544	-338.678	-194.149	12.00	12.00	-0.03
	25.000	86.99	179.701	10,429.304	183.625	-338.550	-169.257	12.00	12.00	-0.03
10.7	50.089	90.00	179.693	10,429.964	158.548	-338.418	-144.208	12.00	12.00	-0.03
,	00.009	90.00	179.693	10,429.964	108.637	-338.151	-94.352	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.965	8.639	-337.615	5.536	0.00	0.00	0.00
,	00.000	90.00	179.693	10,429.967	-91.360	-337.080	105.424	0.00	0.00	0.00
,	00.000	90.00	179.693	10,429.968	-191.359	-336.545	205.312	0.00	0.00	0.00
11.2	00.000	90.00	179.693	10,429.969	-291.357	-336.010	305.200	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.969	-291.357 -391.356	-335.474	405.088	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.971	-491.354	-334.939	504.976	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.973	-591.353	-334.404	604.864	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.974	-691.351	-333.869	704.752	0.00	0.00	0.00
11 7	00.000	90.00	179.693	10,429.975	-791.350	-333.333	804.640	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.975	-891.348	-332.798	904.528	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.970	-991.347	-332.263	1,004.416	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.979	-1,091.346	-331.728	1,104.304	0.00	0.00	0.00
,	00.000	90.00	179.693	10,429.980	-1,191.344	-331.192	1,204.192	0.00	0.00	0.00
	00.000	90.00 90.00	179.693 179.693	10,429.981 10,429.982	-1,291.343 -1,391.341	-330.657 -330.122	1,304.080 1,403.968	0.00 0.00	0.00 0.00	0.00 0.00
	00.000	90.00	179.693	10,429.982	-1,491.340	-330.122	1,403.966	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.985	-1,591.338	-329.067	1,603.744	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.986	-1,691.337	-328.516	1,703.632	0.00	0.00	0.00
	00.000	90.00	179.693	10,429.987	-1,791.336	-327.981 -327.446	1,803.520	0.00	0.00	0.00
	00.000	90.00 90.00	179.693 179.693	10,429.988 10,429.989	-1,891.334 -1,991.333	-327.446 -326.910	1,903.408 2,003.296	0.00 0.00	0.00 0.00	0.00 0.00
, -	00.000	90.00	179.693	10,429.969	-1,991.333	-326.910	2,003.296 2,103.184	0.00	0.00	0.00
13,0	00.000	30.00	113.030	10,723.331	-2,001.001	-020.010	2,100.104	0.00	0.00	0.00

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Well:	#504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #0.1 RT		

Planned Survey

eog resources

Measure Depth (ft)		Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,100.			10,429.992	-2,191.330	-325.840	2,203.072	0.00	0.00	0.00
13,200.			10,429.993	-2,291.328	-325.305	2,302.960	0.00	0.00	0.00
13,200.			10,429.993	-2,291.328	-323.303	2,302.900	0.00	0.00	0.00
13,400.			10,429.994	-2,491.325	-324.234	2,502.737	0.00	0.00	0.00
13,500.			10,429.996	-2,591.324	-323.699	2,602.625	0.00	0.00	0.00
13,600.			10,429.998	-2,691.323	-323.164	2,702.513	0.00	0.00	0.00
13,700.			10,429.999	-2,791.321	-322.628	2,802.401	0.00	0.00	0.00
13,800.			10,430.000	-2,891.320	-322.093	2,902.289	0.00	0.00	0.00 0.00
13,900. 14,000.			10,430.001 10,430.002	-2,991.318 -3,091.317	-321.558 -321.023	3,002.177 3,102.065	0.00 0.00	0.00 0.00	0.00
14,000.			10,430.002	-3,191.317	-321.023	3,201.953	0.00	0.00	0.00
,									
14,200.			10,430.005	-3,291.314	-319.952	3,301.841	0.00	0.00	0.00
14,300.			10,430.006	-3,391.313	-319.417	3,401.729	0.00	0.00	0.00
14,400.			10,430.007	-3,491.311	-318.882	3,501.617	0.00	0.00	0.00
14,500.			10,430.008	-3,591.310	-318.346	3,601.505	0.00	0.00	0.00
14,600.	.000 90.00	) 179.693	10,430.010	-3,691.308	-317.811	3,701.393	0.00	0.00	0.00
14,700.	.000 90.00	179.693	10,430.011	-3,791.307	-317.276	3,801.281	0.00	0.00	0.00
14,800.	.000 90.00	179.693	10,430.012	-3,891.305	-316.741	3,901.169	0.00	0.00	0.00
14,900.			10,430.013	-3,991.304	-316.205	4,001.057	0.00	0.00	0.00
15,000.			10,430.014	-4,091.302	-315.670	4,100.945	0.00	0.00	0.00
15,100.	.000 90.00	179.693	10,430.016	-4,191.301	-315.135	4,200.833	0.00	0.00	0.00
15,200.	.000 90.00	179.693	10,430.017	-4,291.300	-314.599	4,300.721	0.00	0.00	0.00
15,300.	.000 90.00	179.693	10,430.018	-4,391.298	-314.064	4,400.609	0.00	0.00	0.00
15,400.	.000 90.00	179.693	10,430.019	-4,491.297	-313.529	4,500.497	0.00	0.00	0.00
15,498.			10,430.020	-4,590.009	-313.001	4,599.100	0.00	0.00	0.00
15,500.	.000 90.00	) 179.693	10,430.020	-4,591.295	-312.994	4,600.385	0.00	0.00	0.00
15,600.	.000 90.00	179.693	10,430.022	-4,691.294	-312.458	4,700.273	0.00	0.00	0.00
15,700.	.000 90.00	179.693	10,430.023	-4,791.292	-311.923	4,800.161	0.00	0.00	0.00
15,800.	.000 90.00	179.693	10,430.024	-4,891.291	-311.388	4,900.049	0.00	0.00	0.00
15,900.			10,430.025	-4,991.290	-310.853	4,999.937	0.00	0.00	0.00
16,000.	.000 90.00	179.693	10,430.026	-5,091.288	-310.317	5,099.825	0.00	0.00	0.00
16,100.	.000 90.00	179.693	10,430.028	-5,191.287	-309.782	5,199.713	0.00	0.00	0.00
16,200.	.000 90.00	179.693	10,430.029	-5,291.285	-309.247	5,299.601	0.00	0.00	0.00
16,300.	.000 90.00	179.693	10,430.030	-5,391.284	-308.712	5,399.489	0.00	0.00	0.00
16,400.	.000 90.00	179.693	10,430.031	-5,491.282	-308.176	5,499.377	0.00	0.00	0.00
16,500.	.000 90.00	) 179.693	10,430.032	-5,591.281	-307.641	5,599.265	0.00	0.00	0.00
16,600.	.000 90.00	179.693	10,430.034	-5,691.279	-307.106	5,699.153	0.00	0.00	0.00
16,700.	.000 90.00	179.693	10,430.035	-5,791.278	-306.571	5,799.041	0.00	0.00	0.00
16,800.	.000 90.00	179.693	10,430.036	-5,891.277	-306.035	5,898.929	0.00	0.00	0.00
16,900.	.000 90.00	179.693	10,430.037	-5,991.275	-305.500	5,998.817	0.00	0.00	0.00
17,000.	.000 90.00	) 179.693	10,430.038	-6,091.274	-304.965	6,098.705	0.00	0.00	0.00
17,100.	.000 90.00	179.693	10,430.039	-6,191.272	-304.430	6,198.594	0.00	0.00	0.00
17,200.	.000 90.00	179.693	10,430.041	-6,291.271	-303.894	6,298.482	0.00	0.00	0.00
17,300.	.000 90.00	179.693	10,430.042	-6,391.269	-303.359	6,398.370	0.00	0.00	0.00
17,400.			10,430.043	-6,491.268	-302.824	6,498.258	0.00	0.00	0.00
17,500.	.000 90.00	179.693	10,430.044	-6,591.267	-302.289	6,598.146	0.00	0.00	0.00
17,600.	.000 90.00	179.693	10,430.045	-6,691.265	-301.753	6,698.034	0.00	0.00	0.00
17,700.	.000 90.00	179.693	10,430.047	-6,791.264	-301.218	6,797.922	0.00	0.00	0.00
17,800.	.000 90.00	179.693	10,430.048	-6,891.262	-300.683	6,897.810	0.00	0.00	0.00
17,900.			10,430.049	-6,991.261	-300.148	6,997.698	0.00	0.00	0.00
18,000.	.000 90.00	179.693	10,430.050	-7,091.259	-299.612	7,097.586	0.00	0.00	0.00
18,037.	.796 90.00	) 179.693	10,430.051	-7,129.054	-299.410	7,135.339	0.00	0.00	0.00
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## Received by OCD: 5/7/2021 12:06:20 PM



# **EOG Resources**

**Planning Report** 

Database:	EDM	Local Co-ordinate Reference	Well #504H
Company:	EOG Resources - Midland	TVD Reference:	kb = 25' @ 3376.007ft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 25' @ 3376.007ft
Site:	Almost Eddy 30 Fed Com	North Reference:	Grid
Well:	#504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #0.1 RT		

### **Design Targets** Target Name - hit/miss target Dip Angle Dip Dir. TVD +N/-S +E/-W Northing Easting - Shape (ft) (ft) (ft) (ft) (ft) (°) (°) Latitude Longitude KOP(Almost Eddy 30 Fe 0.000 9,952.519 -340.001 32.101176 0.00 636.001 401,091.80 732,365.46 plan hits target center Point FTP(Almost Eddy 30 Fe 0.00 0.000 10,165.220 586.001 -340.001 401,041.80 732,365.46 32.101039 - plan hits target center - Point Fed Perf 1(Almost Eddy 0.00 0.000 10,430.020 32.086811 -4,590.009 -313.001 395,865.79 732,392.46 - plan hits target center - Point 0.000 10,430.020 -7,129.014 PBHL(Almost Eddy 30 F 0.00 -300.001 393,326.79 732,405.46 32.079831 - plan misses target center by 0.591ft at 18037.752ft MD (10430.051 TVD, -7129.011 N, -299.410 E) - Point

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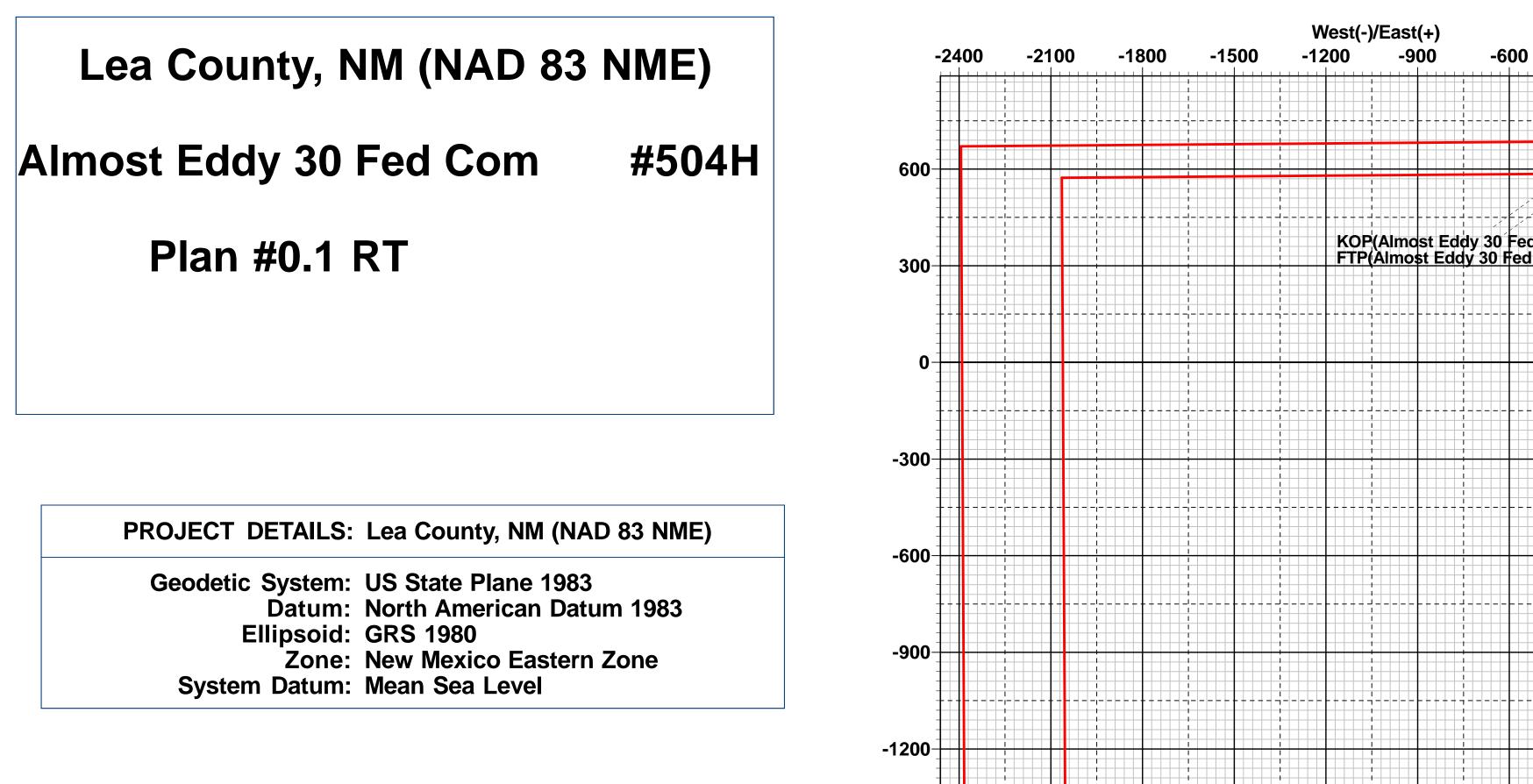
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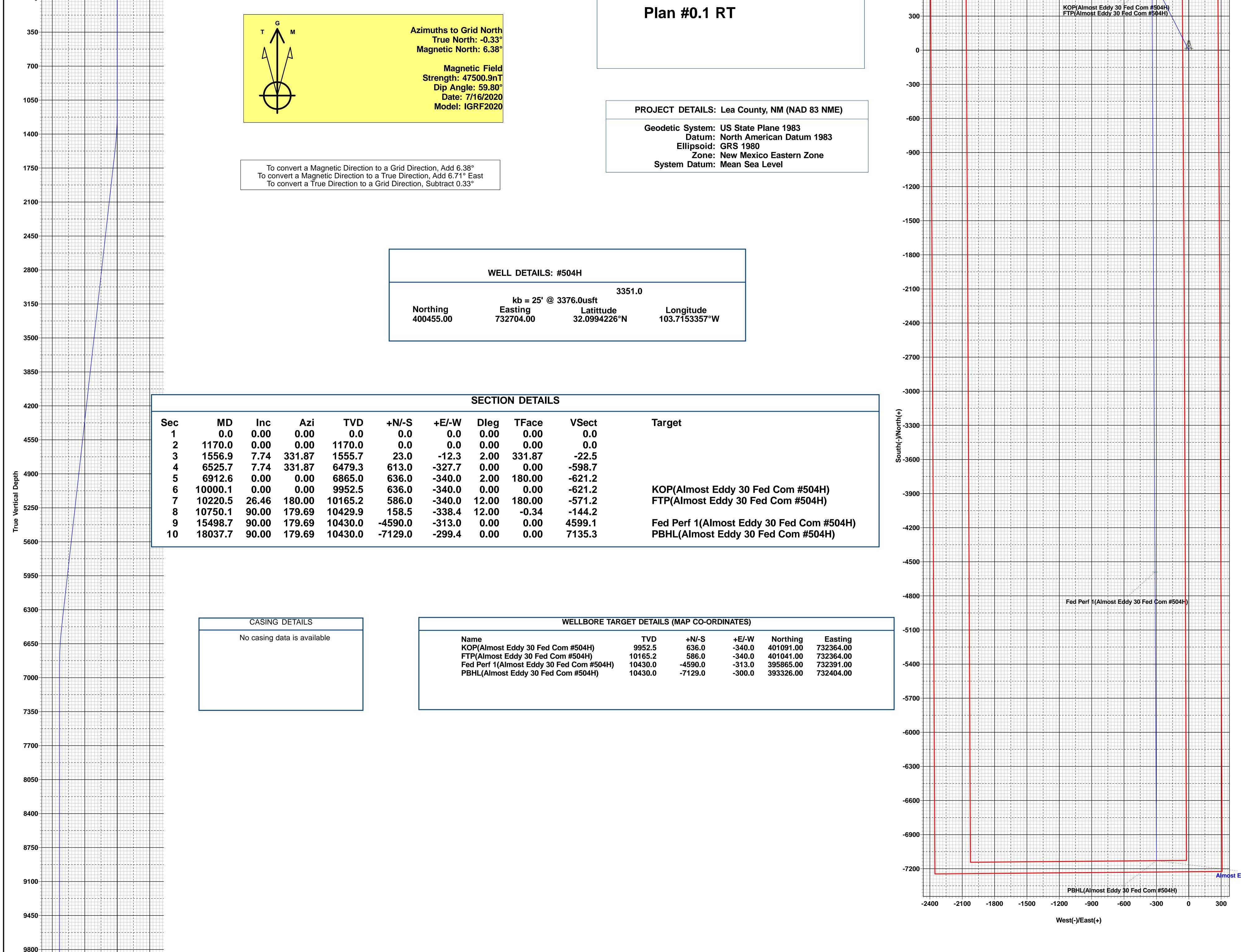
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-350	350		1050	1400	1750	<u></u> 2100	2450	2800	3150	3500	3850	<u> </u>	<u></u> 45:		Almost Ed	ddy 30 Fed ( 5600	Com #504H) 5950	6300	6650	7000	PE	BHL(Almost Eddy 30 Fed Com #504H)

Lea County, NM (NAD 83 NME) Almost Eddy 30 Fed Com #504H OH Plan #0.1 RT 8:09, August 28 2020



# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	EOG RESOURCES
LEASE NO.:	NMNM112935
WELL NAME & NO.:	ALMOST EDDY 30 FED COM 501H – 509H
LOCATION:	Section 30, T.25 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

# COA

H2S	O Yes	• No	
Potash	None	Secretary	© R-111-P
Cave/Karst Potential	• Low	O Medium	O High
Cave/Karst Potential	Critical		
Variance	O None	Flex Hose	O Other
Wellhead	Conventional	Multibowl	O Both
Other	□4 String Area	Capitan Reef	WIPP
Other	Fluid Filled	Cement Squeeze	□ Pilot Hole
Special Requirements	□ Water Disposal	COM	🗆 Unit

# A. HYDROGEN SULFIDE

1. Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

# **B.** CASING

- 1. The **13-3/8** inch surface casing shall be set at approximately **1,070** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of <u>8</u>
     <u>hours</u> or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Excess cement calculates to 21%, additional cement may be required.**

# C. PRESSURE CONTROL

- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

**Approval Date: 05/06/2021** 

# **D. SPECIAL REQUIREMENT (S)**

# **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be</u> <u>on the sign.</u> JJP03152021

# **GENERAL REQUIREMENTS**

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)
  - Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- Lea County Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612
- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig

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- Notify the BLM when moving in and removing the Spudder Rig.
- Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
- BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

# A. CASING

- 1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- <u>Wait on cement (WOC) for Potash Areas:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least <u>24 hours</u>. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

# Approval Date: 05/06/2021

- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

# B. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
- e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
  - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
  - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall

# M Approval Date: 05/06/2021

have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

# C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

# D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

**Approval Date: 05/06/2021** 

# Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H2S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:
  - Well control equipment
    - a. Flare line 150' from wellhead to be ignited by flare gun.
    - b. Choke manifold with a remotely operated choke.
    - c. Mud/gas separator
  - Protective equipment for essential personnel.

Breathing apparatus:

- a. Rescue Packs (SCBA) 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escape packs —4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs —4 packs shall be stored in the doghouse for emergency evacuation.

Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher
- H2S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.

(Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
  - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
  - c. Two wind socks will be placed in strategic locations, visible from all angles.

# Mud program:

The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.

# ■ Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

■ Communication:

Communication will be via cell phones and land lines where available.

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# EOG RESOURCES, INC. ALMOST EDDY 30 FED COM #504H

DIDI IC SAFETV.	LISI	011 or
PUBLIC SAFETY:		<u>911 or</u>
Lea County Sheriff's Department Rod Coffman		(575) 396-3611
Fire Department: Carlsbad		(575) 005 2125
		(575) 885-3125
Artesia		(575) 746-5050
Hospitals:		(575) 007 1101
Carlsbad Artesia		(575) 887-4121
		(575) 748-3333
Hobbs		(575) 392-1979
Dept. of Public Safety/Carlsbad		(575) 748-9718
Highway Department		(575) 885-3281
New Mexico Oil Conservation		(575) 476-3440
U.S. Dept. of Labor		(575) 887-1174
EOG Resources, Inc.		
EOG / Midland	Office	(432) 686-3600
Company Drilling Consultants:		
Jett Dueitt	Cell	(432) 230-4840
Blake Burney	con	(192) 200 1010
Drilling Engineer	0.00	(100) (0 ( 0 (0)
Steve Munsell		(432) 686-3609
	Cell	(432) 894-1256
Drilling Manager	0.02	
Aj Dach		(432) 686-3751
	Cell	(817) 480-1167
Drilling Superintendent	0.02	(100) 0 10 0000
Jason Townsend		(432) 848-9209
	Cell	(210) 776-5131
H&P Drilling		
H&P Drilling		(432) 563-5757
H&P 415 Drilling Rig	Rig	(432) 230-4840
Tool Pusher:		
Johnathan Craig	Cell	(817) 760-6374
Brad Garrett		
Safety		
Brian Chandler (HSE Manager)	Office	(432) 686-3695
	Cell	(817) 239-0251
		(

# **Emergency Assistance Telephone List**

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

# **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Operator:	OGRID:	
EOG RESOURCES INC	7377	
P.O. Box 2267	Action Number:	
Midland, TX 79702	27365	
	Action Type:	
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)	

### CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	6/11/2021
	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	6/11/2021

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